VIKHOREV, K.A.

Supplying marine diesels as assembled units, their installation and delivery on ships. Trudy NTO sud.prom. 32:17-25 '60. (MIRA 13:6)

(Marine diesel engines)

05820
SOV/76-33-10-18/45

5 (4)
AUTHORS: Shishokin, V. P., Ageyeva, V. A., Vikhoreva, N. A.

TITLE: Time Hardness as a Method of Physicochemical Analysis

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 10, pp 2222 - 2229 (USSR)

ABSTRACT: The authors made experiments on the variation in hardness of various alloys in dependence on the variation in composition at various temperatures and various durations of strain. Bismuth-cadmium alloys (2.7, 18.7, 44.6, 62.2, 90.9 At.% Bi), bismuth-antimony alloys (6, 15, 25, 50, 75 At% Bi), bismuth-lead alloys (5, 10, 20, 30, 33.3, 56.3, 70, 95 At% Bi), the solid solution of bismuth in lead (6.25, 12.5, 15 and 17.5 At% Bi), aluminum-zinc alloys, cadmium-mercury alloys (6.2, 12.5, 18.7 % Hg) and lead-mercury alloys (5.2, 10.3, 12.9, 15.4, 20.5, 25.6, 31 % Hg) were used for this purpose. The alloys were subjected to thermal treatment and loaded (10, 34.4, 36, 39, and 69.4 kg) for various times (5, 30, 150, 720 and 1440 min). The resultant diagrams are discussed (Figs 1-7) with reference to publications by N. S. Kurnakov, A. N. Akhnazarov (Ref 10), A. I. Glazunov, M. M. Matveyev (Ref 11), V. A. Nemilov (Ref 12), V. Ya. Anosov (Ref 13),

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05820

Time Hardness as a Method of Physicochemical Analysis SOV/76-33-10-18/45

A. E. Nikerov (Ref 14), A. A. Bochvar (Ref 15), L. A. Rotinyan (Ref 16), S. I. Gubkin, L. A. Zakharov (Ref 17), Ye. M. Savitskiy and V. F. Terekhova (Ref 18). Under equal conditions of temperature and load, the isochronous curves of hardness vary parallel with the isothermal hardness lines. In eutectic alloys, the concave part of the curve composition - velocity index of hardness faces the concentration ordinate, while it diverts from it in solid solutions. It was found that at various durations of load application (various deformation rates) the determination of hardness could be applied as a method of physicochemical analysis. There are 8 figures and 18 references, 17 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin). Leningradskiy pedagogicheskiy institut im. A. I. Gertsena (Leningrad Pedagogical Institute imeni A. I. Gertsen)

SUBMITTED: March 18, 1958

Card 2/2

AUTHORS: Kartseva, A.M., Vikhoreva, T.A. 32-24-4-11/67

TITLE: Control of Gas Saturation in Melts on a Copper Basis (Kontrol' gazonasyshchennosti v rasplavakh na mednoy osnove)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 410-413 (USSR)

ABSTRACT: For carrying out determinations in aluminum alloys Dardel (Ref 1) suggested a method in which the moment of formation of the first gas bubble in the metal melt was recorded at a certain vacuum and temperature. In the present method this is applied to alloys on a copper basis, in which case the higher melting temperature is necessary. It may be seen from a drawing that the test apparatus consists of a heatable container with melting crucible, a mercury manometer, a connection to the vacuum, etc. It is not the absolute gas content of the melt that is determined, but only a sort of quality control based upon the gas content is carried out. The actually characterizing quantity is the pressure at which the first gas bubble is formed under fixed conditions. In this manner several alloys were investigated; by subsequent mechanical tests it was found that the gas content of the melt exercises

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considerable influence upon the mechanical properties of the alloys. A comparison between results obtained by the described investigation method with those obtained in laboratories showed good agreement. Determination is said to take from 2 to 3 minutes. There are 1 figure, 4 tables, and 1 reference, which is Soviet.

1. Copper alloys--Quality control 2. Copper alloys--Testing equipment 3. Gases--Determination 4. Gases--Metallurgical effects

VIKHOREVA, T.A.

AUTHORS: Vikhoreva, T.A., and Vlasov, A.F., Engineers 128-58-4-11/18

TITLE: Experience With Exothermally-Heated Feeding Heads (Opyt primeneniya pribyley s ekzotermicheskim obogrevom)

PERIODICAL: Liteynoye Proizvodstvo, 1958, No. 4, pp 25-26 (USSR)

ABSTRACT: The article gives information on a new exothermal compound for heating feeding heads of steel castings which has reduced the metal waste by 50% and also greatly reduced the number of rejects. Its composition, in weight percentage is: powder aluminum 10%, 75-percent ferrosilicon 13%, iron scale 62%, refractory clay powder 8%, fire clay 7%. Addition of 3-5% sulphite lye and 1% water is made to increase the strength of the compound in dry condition. Recommendations are given concerning the dimensions and weight of feeding heads, and the granulation of exothermal compound components. The compound is considerably cheaper than the ordinary exothermal compounds containing more aluminium powder, the burning reaction in the process of pouring is quiet, the remains of the compound partly float to the metal surface in feeding heads and form a readily removable slag. An illustration shows a casting with ordinary feeding heads and one which was exothermally

Card 1/2

heated by using the above mentioned compound.
There are 2 figures.

AVAILABLE: Library of Congress

Card 2/2 1. Steel castings-Test methods 2. Steel castings-Test results

VIKHOREVA, T.N.

LEBEDEV, K.P., kand.tekhn.nauk; VIKHOREVA, T.N., inzh.; VESELOVA, A.I., inzh.

Improved technology of casting brass propellers. Lit.proizv. no.8:7-10 Ag '57. (MIRA 10:10)
(Brass founding)
(Propellers)

TERYUSHNOV, A.V., prof.; DERYUZHKINA, V.G., red.; VIKHRAMEYEVA, T.N., st. nauchn. sotr.; TIMOFEYEVA, Ye.A., red.

[Spinning without roving] Bezrovnichnoe priadenie. Moskva, 1963. 31 p. (MIRA 17:5)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii legkoy promyshlennosti.

KLENOVA, M.V.; FLOROVSKAYA, V.N.; VIKHRENKO, V.M.

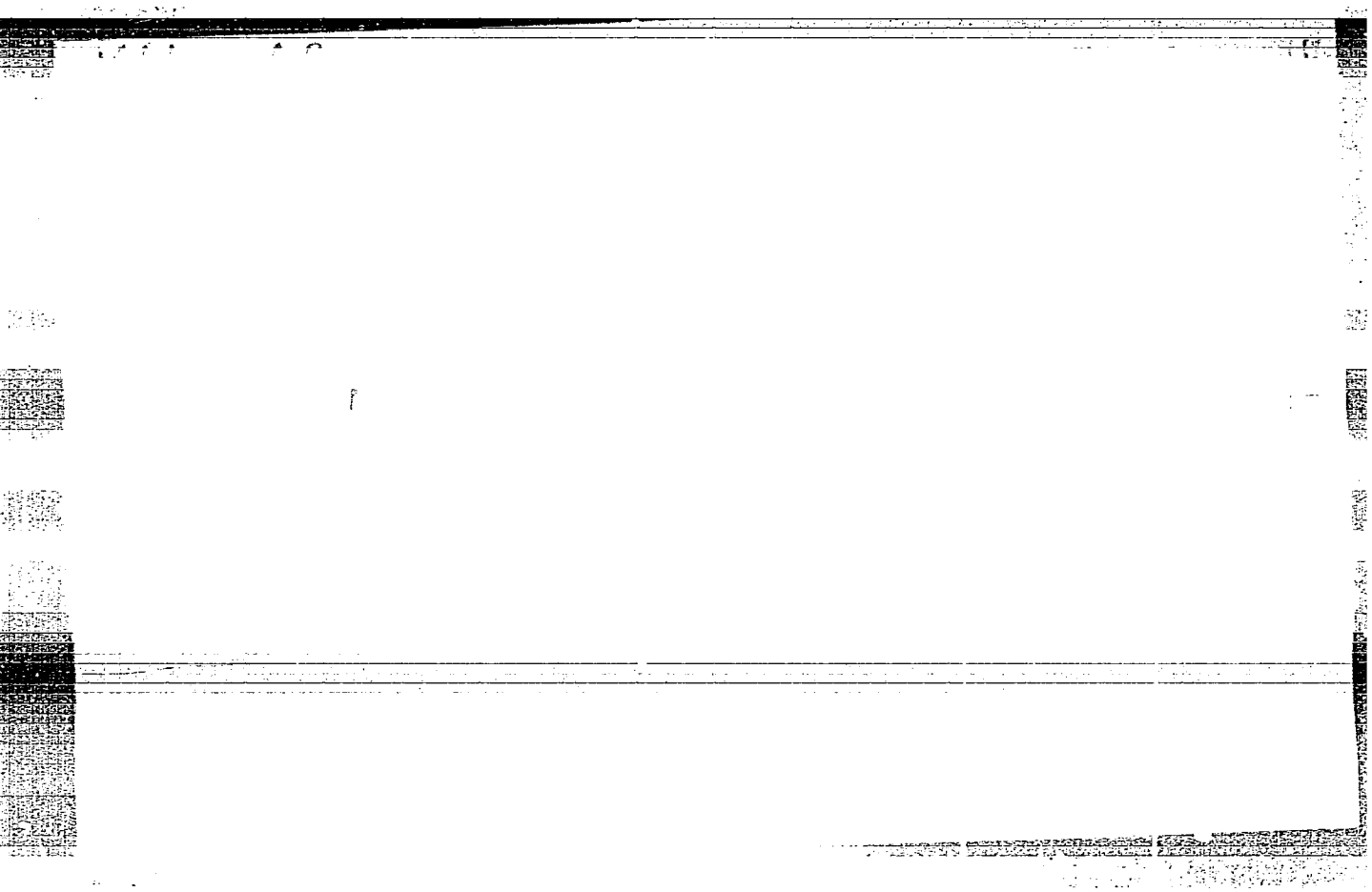
Bituminological luminescence survey of the sea bottom. Dokl.AN SSSR. 109 no.4:846-848 Ag 1956. (MLRA 9:10)

1. Predstavleno akademikom S.I. Mironovym.
(Caspian Sea--Sea bottom)

VIKHREV, A.A.; MUKHACHEV, A.I.

Gondola-car for the transportation of scrap. Stal' 16 no.5:471 My '56. (MLRA 9:8)

1. Kuznetskiy metallurgicheskiy kombinat.
(Stalinsk--Railroads, Industrial)



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001859720015-3"

VIKHREV, A.Ye.

Whom does the theory of "moral rearmament" serve. Nauka i zhizn' 23 no.5:45 '56. (MLRA 9:8)

(Moral rearmament)

VIKHREV, Ivan Dmitrievvich, kandidat tekhnicheskikh nauk; ZINGER, S.L., redaktor; BEKKER, O.G., tekhnicheskikh redaktor

[Reconstruction of large blast furnaces by the moving method] Rekonstruktsiia domennoi pechi bol'shogo ob"ema metodom nadvizhki. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 129 p. (MLRA 10:3)
(Blast furnaces--Repairing)

VARENIK, Ye.I., doktor tekhn.nauk, prof.; KANTOROVICH, S.Ye., kand.tekhn. nauk, dotsent; PARAUBEK, G.E., kand.tekhn.nauk, dotsent; GALKIN, I.G., kand.tekhn.nauk, dotsent; PETROV, I.A., doktor tekhn.nauk, prof.; VIKHREV, I.D., kand.tekhn.nauk, dotsent; DIKOV, N.D., kand.tekhn.nauk, dotsent; SYRTSOVA, Ye.D., kand. tekhn.nauk, dotsent; BRISKMAN, I.A., ekonomist; IL'IN, V.M., inzh., nauchnyy red.; LEYKIN, B.P., ekonomist, nauchnyy red.; SKVORTSOVA, I.P., red.izd-va; GERASIMOVA, G.S., red.izd-va; GOL'BERG, T.M., tekhn.red.; KASIMOV, D.Ya., tekhn.red.

[Organization and planning in the construction industry] Organizatsiia i planirovanie stroitel'nogo proizvodstva. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 526 p. (MIRA 14:12)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Varenik).
(Construction industry)

VIKHREV, I.D.

Orgnaization and technology of operations for rebuilding and repairing blast furnaces. Metallurg 3 no.12:6-9 D '58. (MIRA 11:12)

1.Nachal'nik sektora organizatsii stroitel'stva Gipromeza.
(Blast furnaces--Maintenance and repair)

18.3200,25.5000

77426
SOV/130-60-1-9/22

AUTHORS: Vikhrev, I. D. (Candidate of Technical Sciences), Afonin, I. A. (Engineer)

TITLE: Construction of Open-Hearth Shops With Insular-Like Furnace Bank Layout

PERIODICAL: Metallurg, 1960, Nr 1, pp 18-22 (USSR)

ABSTRACT: In view of the current trend toward the building of open-hearth furnaces with a minimum capacity of 500 tons, the authors recommend an appropriate change in plant layout. An insular-like arrangement of furnace banks has already been introduced in an unnamed metallurgical plant now being built (see Fig. 1). According to a survey conducted by the State Institute for the Design andPlanning of Metallurgical Plants (Gipromez), more service personnel are required than in standard open-hearth shops. Absolute investment in labor is approximately the same. However, the productivity of a shop with an "insular" layout of eight 500-ton

Card 1/4

Construction of Open-Hearth Shops With Insular-Like Furnace Bank Layout

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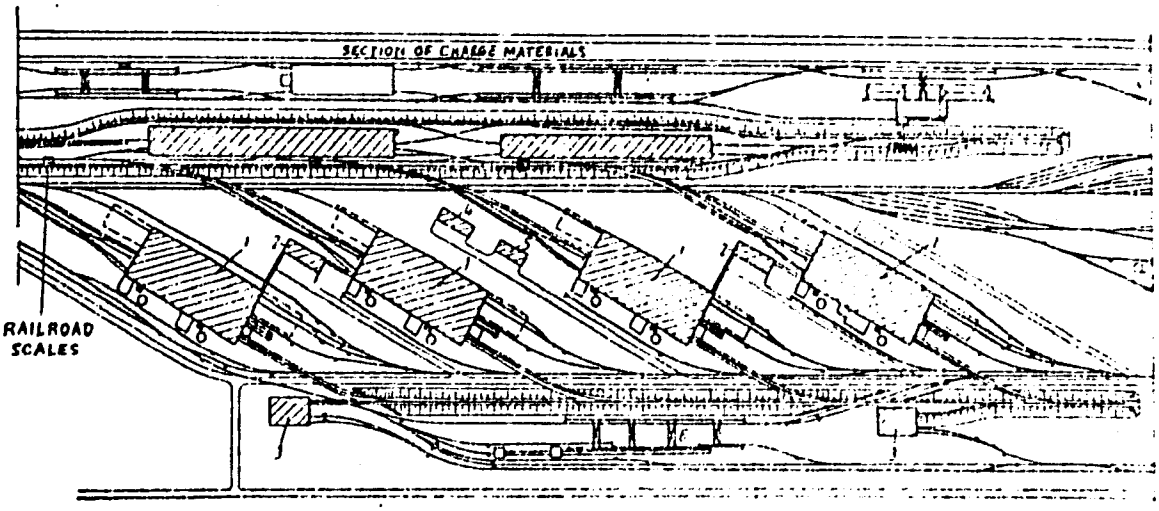
SOV/130-60-1-9/22



Card 2/4 See card 3/4 for caption.

Caption to Fig. 1 on Card 2/4

Fig. 1. Planned layout of an open-hearth shop with insular-like furnace banks: (1) main building bank; (2) rest rooms; (3) mixer building; (4) repair workshop; (5) field laboratory; (6) slag yard.

furnaces and one pouring bay exceeds that of a standard shop with linear furnace arrangement by 3.2% because of shortened melting period (by 18 min). A further 10% increase in productivity is achieved by adding a second pouring bay per bank. The shop under construction comprises four individual two-bay banks. The trains with the charge move directly into the furnace bay; charge box buggies are stored in the lean-to. The installation of a second pouring bay required an elongation of the bay by 48 m on one side and by 36 m on the other. Advantages: (1) possibility of load delivery from both ends of the building, regardless

Card 3/4

Construction of Open-Hearth Shops With Insular-Like Furnace Bank Layout

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of the number of working furnaces and furnaces being built; (2) elimination of temporary end walls after blowing in furnaces; (3) elimination of manual labor for excavation work; (4) decreased width of main building facilitates mounting installations and allows servicing by only one tower crane. The authors recommend the layout as an advanced method in technology and construction. There are 3 figures; and 3 tables.

ASSOCIATION: State Institute for the Design and Planning of Metallurgical Plants (Gipromez)

Card 4/4

AUTHOR: Vikhrev, I.D. SOV/130-58-12-3/21

TITLE: Organization and Methods of Work in the Reconstruction and Repair of Blast Furnaces (Organizatsiya i tekhnologiya rabot pri rekonstruktsii i remontakh domennykh pechey)

PERIODICAL: Metallurg, 1958, Nr 12, pp 6 - 9 (USSR)

ABSTRACT: The author points out that reconstruction as well as new construction can make a contribution to the planned increase in pig-iron production. He goes on to consider the method in which a complete new furnace is prefabricated (with or without the lining), next to a working one which is then blown out and removed, the new one being moved on to the foundations thus made vacant. For the moving a special stand is required, which can be of reinforced concrete blocks or tubes (Figs 1 and 2 show the respective designs suitable for moving a lined furnace) or of steel (Fig 3 shows a design for moving an unlined furnace). The author points out that if necessary through lack of space, the hearth of the new furnace can be assembled on one stand and the upper part on another, one of the stands being above the iron way and the other above the slag way.

Organization and Methods of Work in the Reconstruction and Repair of Blast Furnaces

He gives examples (Fig 4) of the use of the method for reconstructing ancillary structures or equipment and briefly discusses suitable types of cranes, showing (Fig 5) a 40-tonne type mounted on the top of a stove. New trends in standard furnace design, such as under-hearth cooling and the use of pre-fabricated reinforced concrete, facilitate reconstruction operations. The author recommends early and careful preparation of materials and equipment before operations are started, the removal of the furnace bear in the liquid state, copious cooling-water flow into the blown-out furnace (to facilitate scaffold and refractory removal), provision of good intercommunication systems for operations and good ventilation and systematic air analysis. He notes that the

SOV/130-58-12-3/21

Organization and Methods of Work in the Reconstruction and Repair of Blast Furnaces

scientific-technical conference held in Stalino- in August 1958 on furnace repairs recommended the adoption of new working methods.
There are 5 figures

ASSOCIATION: Gipromez

Card 3/3

VIKHREV, Ivan Dmitriyevich, kand. tekhn. nauk; GLAZER, M.R., inzh., nauchn. red.; RYAZANTSEVA, L.I., red.; KASIMOV, D.Ya., tekhn. red.

[Building steel plants] Stroitel'stvo zavodov chernoi metallurgii. Moskva, Gosstroiizdat, 1963. 227 p. (MIRA 17:3)

VIKHREV, N.N.

Methodological activities in the school for feldshers and midwives in Odessa. Fel'dsher & akush., Moskva no.9:52-54 Sept 1952. (CIML 23:2)

VIKHREV, N. N.

Odessa-Medicine- Study and Teaching

Methodological activities in the Odessa school for feldshers and midwives. Fel'd. i akush., No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 ~~1953~~, Uncl.

VIKHREV, N. N.

Medicine - Study and Teaching - Odessa

Methodological activities in the Odessa school for feldshers and midwives. Fel'd. i akush. no. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 ~~1953~~, Uncl.

KORYAKINA, Valentina Fedorovna; KONOVALOV, I.N., otv. red.; VIKHREV, S.D., red. izd-va; SMIRNOVA, A.V., tekhn.red.

[Characteristics of the growth and development of perennial forage plants] Osobennosti rosta i razvitiia mnogoletnikh kormovykh rastenii. Moskva, Izd-vo "Nauka," 1964. 286 p. (MIRA 17:3)

STOLETOVA, Yekaterina Aleksandrovna, doktor sel'skokhozyaystvennykh nauk.; VIKHREV, S.D., red.; NILOV, S.N., red.; MOLODTSOVA, M.S., tekhn. red.

[Buckwheat] Grechikha. Izd. 3., perer. i dop. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 255 p. (MIRA 11:11)
(Buckwheat)

ALEKSANDROV, F.A.; VIKHREV, S.D. (Leningrad); MALEYEVA, O.F.

Review and bibliography. Rast. res. 1 no.2:284-287 '65.
(MIRA 18:11)

1. Obshchestvo okhrany prirody, Kirov (for Aleksandrov).
2. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad (for Maleyeva).

VIKHREV, V. F., Engineer

"On the Effect of the Pressure and Velocity of Air on the Combustion Process of Solid Fuel in a Laver." Sub 6 Jun 47, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

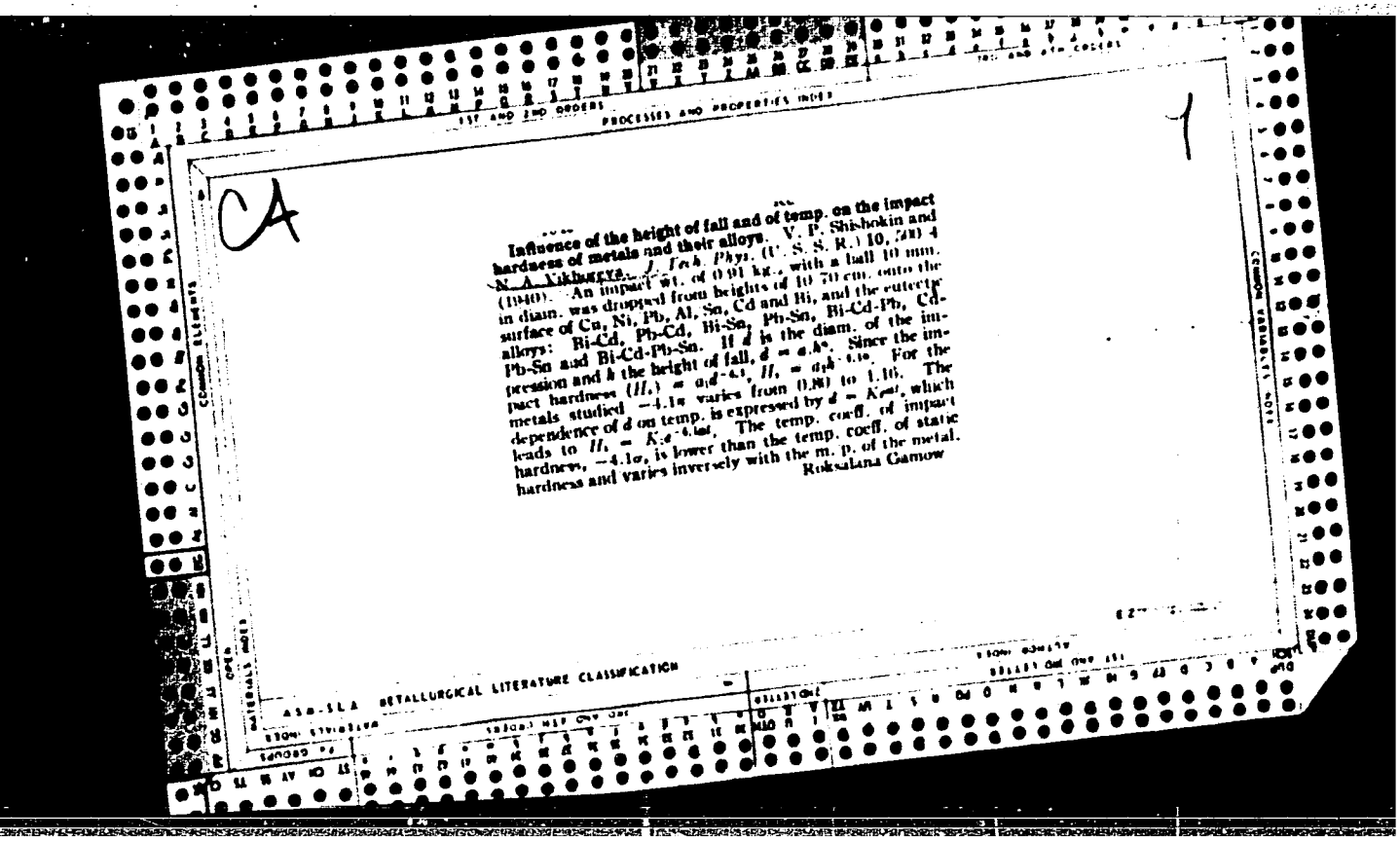
Cand. Tech. Sci.

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum. No. 457, 18 Apr 55

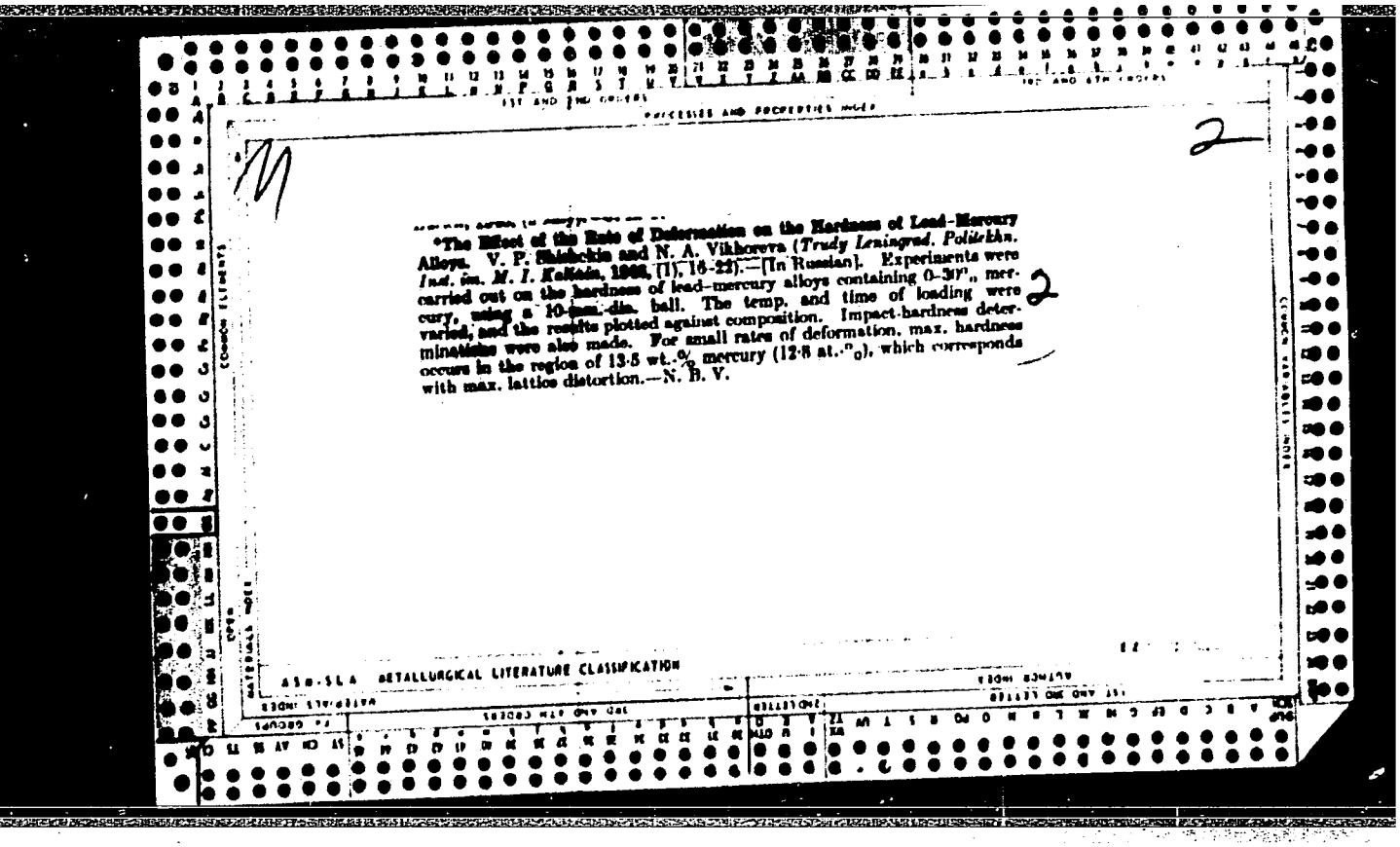
VIKTOROVA, N. A.
V. I. [illegible], Zhur Tekh Fiz 1940, 10 (6), 491-499

VIKHOREVA, N. A.
V. P. SMIRNOKIN, Zhur Tekh Fiz, 1941, 11 , (12), 1109-1114



CA

Influence of the height of fall and of temp. on the impact hardness of metals and their alloys. V. P. Shishokin and N. A. Kikhteva. *J. Tech. Phys.* (U. S. S. R.) 10, 720-4 (1940). An impact wt. of 0.91 kg., with a ball 10 mm. in diam. was dropped from heights of 10-70 cm. onto the surface of Cu, Ni, Pb, Al, Sn, Cd and Bi, and the eutectic alloys: Bi-Cd, Pb-Cd, Bi-Sn, Pb-Sn, Bi-Cd-Pb, Cd-Pb-Sn and Bi-Cd-Pb-Sn. If d is the diam. of the impression and h the height of fall, $d = a.h^{n}$. Since the impact hardness (H_i) $= a_1 d^{-4.1}$, $H_i = a_1 h^{-0.2n}$. For the metals studied $-4.1n$ varies from 0.80 to 1.10. The dependence of d on temp. is expressed by $d = Ke^{-\alpha t}$, which leads to $H_i = Ke^{-4.1\alpha t}$. The temp. coeff. of impact hardness, -4.1α, is lower than the temp. coeff. of static hardness and varies inversely with the m. p. of the metal.
Roksalina Ganow



"The Effect of the Rate of Deformation on the Hardness of Lead–Mercury Alloys. V. P. Shishkin and N. A. Vikhoreva (*Trudy Leningrad. Politekh. Inst. im. M. I. Kalinin*, 1953, (1), 16–22).—[In Russian]. Experiments were carried out on the hardness of lead–mercury alloys containing 0–30% mercury, using a 10-mm.-dia. ball. The temp. and time of loading were varied, and the results plotted against composition. Impact-hardness determinations were also made. For small rates of deformation, max. hardness occurs in the region of 13·5 wt.-% mercury (12·8 at.-%), which corresponds with max. lattice distortion.—N. B. V.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

ARIYEVICH, A.M. (Moskva); VIKHREVA, O.G. (Moskva); NIKITINA, Ye.Ye. (Moskva); STEPANISHCHEVA, Z.G. (Moskva)

Use of decamin in the treatment of patients with fungal diseases. Vest. derm. i ven. 38 no.7:54-57 Jl '64. (MIRA 18:4)

VIKHREVA, O. G. Cand Med Sci -- (diss) "Some Data for ~~Concerning~~ the Clinic~~al Aspects~~, Epidemiology, and Pathogen~~esis~~y of Chronic Trichophytosis in Adults." Rostov-on-the-Don, 1957. 12 pp 20 cm. (Rostov-on-the-Don State Medical Inst), 200 copies (KL,18-57,97)

VIKHREVA, O.G.

Basic principles of the treatment of trichophytosis in adults. Sovet. med. 17 no.7:26-29 July 1953. (CIML 25:1)

1. Of the Mycology Department (Head -- Prof. A. M. Ariyevich), Central Skin-Venereal Institute (Director -- Doctor Medical Sciences N. I. Turanov), Ministry of Public Health USSR.

VIKHREVA, Yelena Aleksandrovna; LEBEDEV, Ivan Ivanovich; GRUZINOV, V.I., redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor.

[Economizing on automobile tires; work practice of the no.30 motor column of the Yaroslavl' Province trust] Sberezhenie avtomobil'nykh shin; iz opyta raboty avtokolonny No.30 IAroslavskogo oblavtotresta. Moskva, Nauchno-tekhn.izd-vo avtotransp. lit-ry, 1956. 21 p. (Automobiles--Tires) (MLRA 9:6)

KOLESNIKOV, B.P.;SOCHAVA, V.B.,professor otvetstvennyy redaktor.;VIKHREYEV, S.D., redaktor izdatel'stva.;YAKOVLEVA, V.M., redaktor izdatel'stva.;BLEYKH, Ye.Yu.,tekhnicheskiy redaktor.

[Cedar forests of the Far East.] Kedrovye lesa Dal'nego Vostoka. Moskva, Izd-vo Akademii nauk SSSR, 1956. 261 p. (Akademiia nauk SSSR. Dal'nevostochnyy filial imeni V. L. Komarova. Seriia botanicheskaia. Trudy, vol. II (IV)) (MLRA 9:11)

(Soviet Far East--Cedar)

17(SOV/177-58-9-21/51

AUTHOR: Vikhriyev, B.S., Captain of the Medical Corps, Candidate of Medical Sciences

TITLE: The Rational Technique of Cutting Free Skin Transplants by Means of a Dermatome

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 9, pp 68-70 (USSR)

ABSTRACT: Among numerous instruments for cutting free skin transplants, the dermatome is mainly used (E. Padgett, 1939; M.V. Kolokol'tsev, 1946). Many medical institutions of the Soviet Union use dermatomes designed according to Padgett's dermatome and manufactured in the Zavod "Krasnogvardeyets" (Krasnogvardeyets Plant). In Soviet literature only B.A. Petrov and B.N. Postnikov (1952) described the technique of cutting free skin transplants. In this article the author describes in detail the procedure of handling the above mentioned dermatome. There are 2 diagrams.

Card 1/1

KOLESNIKOV, I.S.; SHEYNIS, V.N.; VIKHRIYEV, B.S.; FILATOV, V.I.

Organization of work in a specilaized department for the treatment of burns. Vest. khir. 84 no. 4:128-134 Ap '60. (MIRA 14:1)
(BURNS AND SCALDS)

VIKHRIYEV, B.S.

Use of the dermatone for the preparation of free skin transplants.
Vest.Khir. 84 no.6:112-113 Je '60. (MIRA 13:12)
(SKIN GRAFTING)

VIKHRIYEV, B.S., kapitan med.sluzhby, kand.med.nauk

Rational technic of cutting free skin transplants with a dermatome.
Voen.-med. zhur. no.9:68-70 S '58. (MIRA 12:12)
(SKIN TRANSPLANTATION
free grafts, technic of cutting with dermatome
(Rus))

VIKHRIYEV, B.S., kand.med.nauk; MATUSEVICH, M.Ya.

Comparative evaluation of methods of anesthesia in surgical treatment of burns. Khirurgiia 35 no.7:33-37 Jl '59. (MIRA 12:12)

1. Iz 1-y kafedry gospital'noy khirurgii (zav. - prof. I.S. Kolesnikov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.
(BURNS, surgery)
(ANESTHETICS, therapy)
(SKIN TRANSPLANTATION)

KOLESNIKOV, I.S., general-mayor meditsinskoy sluzhby, professor; VIKHRIYEV, B.S., kapitan meditsinskoy sluzhby, kand.med.nauk

Napalm burns and their treatment. Voen.-med.zhur. nl.8:3-7 Ag '57. (MIRA 10:12)
(BURNS, therapy,
napalm burns (Rus))
(WAR,
napalm burns, ther. (Rus))

VIKHRIYEV, B. S., capt., Med. Serv., Cand. Med. Sci, and KOLESNIKOV, I. G., Prof., Maj. Gen. Med. Serv.

"Napalm Burns and their Treatment," Voyenno-Meditsinskiy Zhurnal, No. 8, August 1957.

VIKHRIYEV, B.S., kand.med.nauk (Leningrad, Lesnoy pr.,d.4, kv.68); MATUSEVICH, M.Ya.; FILATOV, V.I., kand.med.nauk

Surgical shock in free skin grafting in burned patients. Nov. khir. arkh. no.2:31-35 Mr-Ap '60. (MIRA 14:11)

1. Kafedra gospital'noy khirurgii (nachal'nik - prof. I.S.Kolesnikov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(SKIN GRAFTING) (SHOCK) (BURNS AND SCALDS)

KOLESNIKOV, Ivan Stepanovich; VIKHRIYEV, Boris Sergeyevich; PISAREVSKIY, A.A., red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Surgical treatment of deep thermal burns] Operativnoe lechenie glubokikh termicheskikh ozhogov. Moskva, Medgiz, 1962. 177 p. (MIRA 15:6)

(BURNS AND SCALDS) (SKIN--GRAFTING)

KOLESNIKOV, I.S.; VIKHRIYEV, B.S.; SHCHERBA, B.V.; POGEVIN, D.I.; PLESHAKOV, V.T.

Differential diagnosis of lung cancer and abscess. Vop.onk. 11 no.11:3-7 '65. (MIRA 19:1)

1. Iz kafedry gospital'noy khirurgii (zav. - laureat Leninskoy premii, chlen-korrespondent AMN SSSR, zasluzhennyy deyatel' nauki RSFSR prof.I.S.Kolesnikov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

VIKHRIYEV, S.S.

State of the lymphatic system of the stomach in cancer. Vop. onk. 11 no.12:14-21 '66. (MIRA 19:1)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. A.N. Skobunova) Sverdlovskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent V.N. Klimov).

VIKHRIYEVA, M.P.

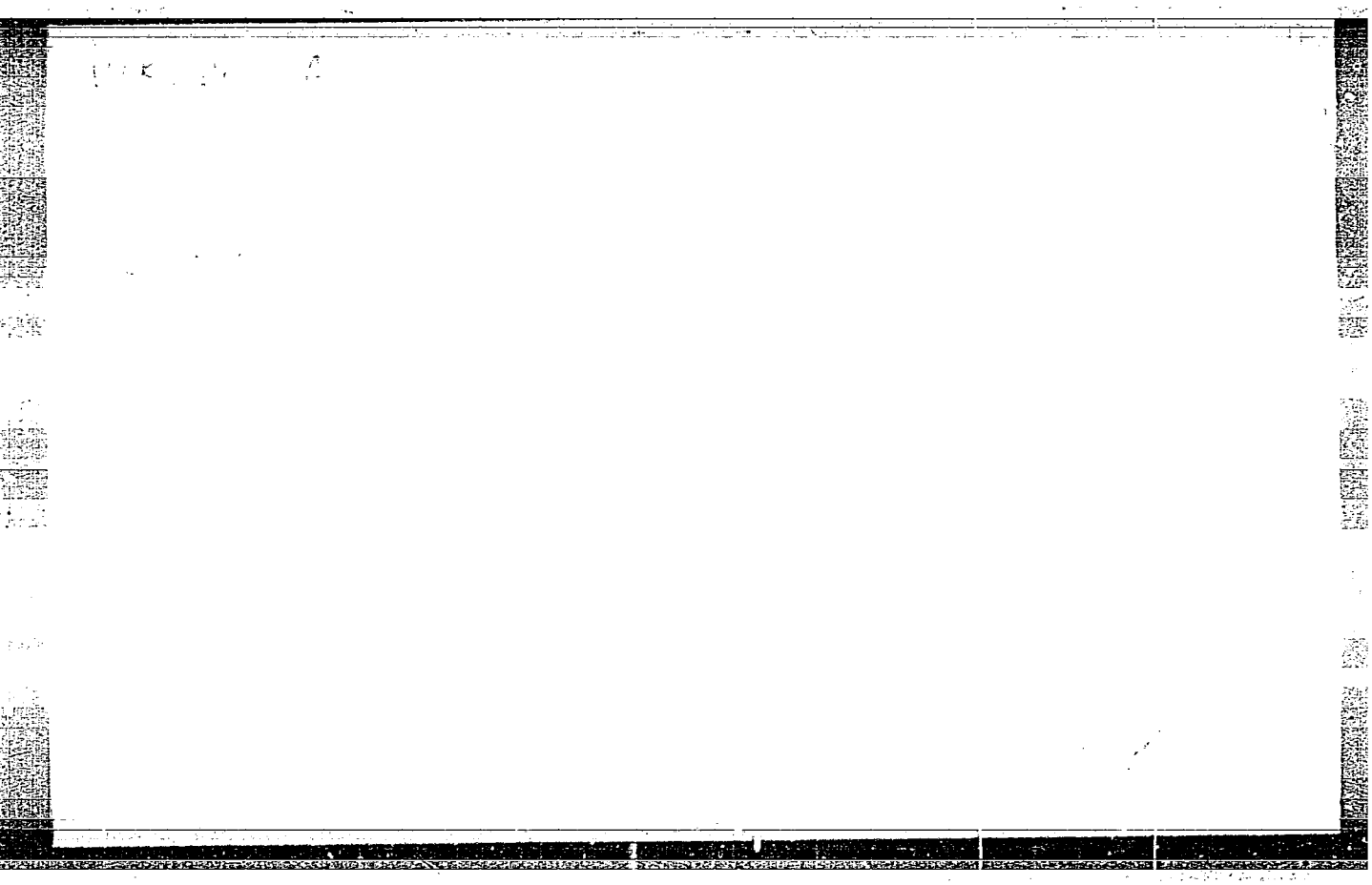
Experimental and clinicopharmacological research on neprotan (andaxin). Farm. i toks. 25 no.4:411-418 Jl-Ag '62. (MIRA 17:10)

1. Kafedra farmakologii (zav. - prof. A.K. Sangaylo) Sverdlovskogo gosudarstvennogo meditsinskogo instituta.

BOL'SHAGIN, V.V.; VIKHRIYEVA, M.P.

Clinico-pharmacological evaluation of andaxin premedication in surgical interventions under local anesthesia. Khirurgiia 39 no.7:86-93 Jl'63 (MIRA 16:12)

1. Iz gospital'noy khirurgicheskoy kliniki lechebnogo fakul'teta (zav. - chlen-korrespondent AMN SSSR zasluzhennyy deyatel' nauki prof. A.T.Lidskiy) i kafedry farmakologii (zav. - prof. A.K.Sangaylo) Sverdlovskogo meditsinskogo instituta.



VIKHROV, A. I.

Teoriya rasshireniy dlya ul'tragrupp. M., uche''n. zap. in-ta, 100 (1946), 3-19.

So: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevshiy, P.K.
Moscow-Leningrad, 1948

VIKHROV, A.P.

VIKHROV, A.P. -- "Method of Surface Burning in the Automatic Gas Analysis of Hydrocarbon-Air Mixtures." Sub 20 Nov 52, Moscow Inst of Chemical Machine Building. (Dissertation for the Degree of Candidate in Technical Sciences.)

SO: VECHERNAYA MOSKVA, January-December 52

ACC NR: AT6036522 SOURCE CODE: UR/0000/66/000/000/0100/0100

AUTHOR: Vikhrov, A. I.; Kolomenskiy, A. V.; Smirennyy, L. N.; Dudkin, V. Ye.; Kovalev, Ye. Ye.; Kuznetsov, V. G.

ORG: none

TITLE: Principles of calculating shielding from cosmic radiation [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 100

TOPIC TAGS: spacecraft shielding, radiation protection, solar flare, cosmic radiation biologic effect, radiation shielding

ABSTRACT: The problem of shielding the cosmonaut from high-energy corpuscular radiations is formulated in the following manner: for given conditions (trajectory, flight duration, etc.), the main shielding requirements must be determined (type and thickness of material, arrangement of shielding, etc.) in order to protect cosmonauts from irradiation in greater than permissible doses with minimum additional weight of the shielding. This article describes a paper in which: 1) Chief aspects of methods of calculating shielding were examined. 2) Mean tissue doses for monoenergetic

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ACC NR: AT6036522

proton fluxes, for proton spectra from solar flares and the Earth's radiation belts were calculated. 3) On the basis of these data sample shielding calculations for some spaceflight trajectories were made. 4) The question of the reliability of radiation protection of a spacecraft was discussed. 5) At the end of the paper the main principles of designing shielding for inhabited spacecraft were formulated. [M.A. No. 22; ATD Report 66-116]

SUB CODE: 06, 18, 22 / SUBM DATE: 00May66

Card 2/2

ACC NR: AT6036521 SOURCE CODE: UR/0000/66/000/000/0099/0100

AUTHOR: Vikhrov, A. I.; Dudkin, V. Ye.; Kovalev, Ye. Ye.; Kuznetsov, V. G.; Smirennyy, L. N.

ORG: none

TITLE: Evaluation of radiation hazard during a flight to the moon [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 99-100

TOPIC TAGS: lunar spaceflight, cosmic radiation biologic effect, radiation dosimetry, radiation protection, solar flare, radiation permissible dose

ABSTRACT: During lunar flight and lunar landing cosmonauts will be exposed to the Earth's radiation belts, galactic space radiation, corpuscular radiation from solar flares, and lunar radiation itself. It has been calculated that during passage through the Earth's radiation belts, which will take approximately 30 min, the mean tissue dose will not exceed 3—5 rem. On the 30-day lunar flight the dose from galactic space radiation will amount to approximately 4—8 rem. Solar flares represent the greatest radiation

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ACC NR: AT6036521

hazard for lunar flight. With shielding of ~1 g/cm^2 the surface dose can reach ~10^4 rem from a high-intensity flare. If the cosmonaut stays in a radiation shelter during a solar flare, the obtained dose can be lowered to 50 rem or less. The probability of an intense solar flare during a period of maximum solar activity is around 10% (for a 30-day period). Doses from galactic space radiation and corpuscular radiation are determining factors on the lunar surface. The contribution to the total dose from natural and induced radiation is no more than several percent. However, doses from galactic space radiation and corpuscular radiation on the lunar surface are two times less than in space, due to shielding by the Moon itself.
[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06, 18, 22 / SUBM DATE: 00May66

Card 2/2

AMIRKHANOV, Kh.I., akademik; ALIBEKOV, B.G., inzh.; VIKHROV, D.I., inzh.; KERIMOV, A.M., kand. fiz.-matem. nauk

Study of the isochoric heat capacity of some alkanes.
Teploenergetika 11 no.3:81-86 Mr '64. (MIRA 17:6)

1. Dagestanskiy filial AN SSSR.

S/0096/64/000/004/0067/0069

ACCESSION NR: AP4025427

AUTHORS: Amirkhanov, Kh. I. (Academician); Kerimov, A. M. (Candidate of physico-mathematical sciences); Alibekov, B. G. (Engineer, Dissertator); Vikhrov, D. I. (Engineer)

TITLE: Investigation of isochoric specific heat of several alkanes in the two-phase region

SOURCE: Teploenergetika, no. 4, 1964, 67-69

TOPIC TAGS: alkanes, isochoric specific heat, alkane specific heat, n octane, n hexane, n heptane

ABSTRACT: The results of direct measurements of c_v of three alkanes (n-hexane, n-heptane and n-octane) in the two-phase region measured in the adiabatic calorimeter described by Amirkhanov (Kh. I. Amirkhanov and A. M. Kerimov "Teploenergetika" No. 6, 1962) are presented. Graphs of the following are shown: a- c_v (two-phase) for n-octane (C_8H_{18}) as a function of temperature (100-300C) for different specific

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ACCESSION NR: AP4025427

volumes (2-8 cm^3/gm); b- c_v(two-phase) as a function of v for different T (same range as before); c- c_v (two-phase) for C_6H_{14}, C_7H_{16} and C_8H_{18} as a function of T/T_c (T_c = $T_{critical}$); d- c_v (two-phase) as a function of specific volume (0-70 cm^3/gm) for the three alkanes; e- $\Delta c_v = c_v$ (two-phase) - of specific volume for the three alkanes. It was found that all three alkanes satisfied the equation $v = \frac{v_c}{1 + 0.2062 (T_c - T)^{0.4}}$ within 0.2 % of a specific volume of 7-8 cm^3/gm. Orig. art. has: 6 graphs and 9 equations.

ASSOCIATION: Dagestanskiy filial AN SSSR (Daghestan Branch of the AN SSSR)

SUBMITTED: 00 DATE ACQ: 20Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 005 OTHER: 000

Card 2/2

VIKTOROV, I., dotsent; PATRASHKOV, T.

Biochemical changes in the blood and urine in cancer of the prostate. Urologiia 28 no.5:27-29 S-O'63 (MIRA 17:4)

1. Iz urologicheskoy kliniki (nachal'nik - prof. G. Krystinov) na kafedre voyenno-polevoy khirurgii Vysshego voyenno-meditsinskogo instituta, Sofiya.

AMIRKHANOV, Kh.I., akademik; KERIMOV, A.M., kand. fiz.-matem. nauk; ALIBEKOV, B.G., inzh.; VIKHROV, D.N., inzh.

Study of the isochoric heat capacity of some alkanes in the two-phase region. Teploenergetika 11 no.4:67-69 Ap '64. (MIRA 17:6)

1. Dagestanskiy filial AN SSSR.

L 20886-66 EWT(d)/EEC(k)-2

ACC NR: AP6002519 SOURCE CODE: UR/0286/65/000/023/0026/0026

AUTHOR: Vikhrov, G. P.

ORG: none

TITLE: A device for measuring the width of recurrent pulses. Class 21, No. 176612

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 26

TOPIC TAGS: measuring instrument, quantized pulse generator, measurement accuracy

ABSTRACT: This Author Certificate presents a device for measuring the width of recurrent pulses. The device contains an input circuit for the reception of the pulses to be measured, a quantizing sequence pulse generator, a coincidence stage (to which are fed the above mentioned sequences of pulses), a coincidence counter, and a control device (see Fig. 1). To increase the precision of the measurements, a converter is used as the coincidence stage. The amplitude of the pulses at the output of the converter is directly proportional to the instantaneous value of the amplitude of the pulses being measured at the moment of arrival of the pulses of the quantizing sequence. The pulses from the output converter are fed to the input of a linear expander. The output of the linear expander is connected to the

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L 20886-66
ACC NR: AP6002519

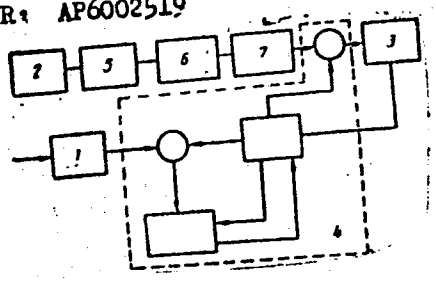

Fig. 1. 1 - input circuit; 2 - quantized pulse generator; 3 - coincidence counter; 4 - control device; 5 - converter; 6 - linear expander; 7 - integral amplitude discriminator.

input of an integral amplitude discriminator. The pulses from the output of the discriminator are fed through the control device to the input of the coincidence counter. Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 15Jul64

Card 2/2 ULR

B/115/60/000/05/21/03?
B007/B011

AUTHORS: Yakubov, R. A., Vikhrov, G. P., Navderov, V. Z.

TITLE: Some Cases of the Use of Electronic Pulse Counters in Measuring Technology

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 5, pp 41-44

TEXT: The principles underlying the construction of electronic measuring devices with digital indication, based on the use of pulse counters, had been described in the papers of Refs. 1, 2, 3. The authors examined several special cases in which electronic pulse counters were used in calibration test systems. Frequency dividers with adjustable dividing ratio are first dealt with, and the two possible types of construction are shown in this connection. The block diagram relating to the second type is shown in Fig. 1 and explained. This method is based on the possibility of availing oneself of a pulse to bring an n-chain of series-connected binary cells into such a position as corresponds to an arbitrary number of stored pulses smaller than 2^n. Diagrams of the conditions with time in the

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divider are shown in Fig. 2. On the basis of the divider shown here, circuits can be set up for the conversion and the production of electric oscillations. The production of delayed pulses is investigated next. The principle consists in the separation of 2 pulses from their periodic sequence, with these 2 pulses standing apart from one another by M discrete periods of this sequence. The block diagram of a variant of such a system is shown in Fig. 3 and explained. The deficiencies exhibited by this circuit are pointed out, and a block diagram free of these deficiencies is shown in Fig. 4. It features additional cascades for the selection of the pedestal pulse and of the delayed output pulse. The mode of selection of these two pulses is shown here. To produce groups of pulses with a precisely known number of pulses as well as a determined repetition frequency of such groups, the circuits given here can be used. It is pointed out that such circuits can be also utilized for the production of rectangular pulses of a controllable and adjustable duration. For this purpose, a forming trigger with a cascade at the output must be introduced into the circuits given in Figs. 3 and 4, respectively. A simplified block diagram for the production of rectangular pulses is shown in Fig. 7 and explained.

Some Cases of the Use of Electronic Pulse Counters in Measuring Technology

S/115/60/000/05/21/034
B007/B011

It is stated in conclusion that the circuits dealt with here can be utilized for the construction of calibration test devices for various purposes. The use of semiconductors is recommended for such devices to increase their reliability and economy, and to reduce dimensions and weight. There are 7 figures and 5 references: 3 Soviet and 2 German.

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S/115/63/000/004/008/011
E140/E135

AUTHORS: Valitov R.A., and Vikhrov G.P.

TITLE: The error of digital time-interval meters and the improvement of their accuracy by the method of averaging

PERIODICAL: Izmeritel'naya tekhnika, no.4, 1963, 44-47

TEXT: The authors propose to improve the accuracy of digital (counter type) time interval meters by averaging the readings (automatically) of several repetitions of the process, thus avoiding the need for faster circuits using higher clock rates.
There are 2 figures and 3 tables.

Card 1/1

VIKHROV, I., inzh.; KOSHEVOY, V., inzh.

Construction and operation of large-panel apartment houses.
Zhil. stroi. no.2:9-10 '62. (MIRA 16:1)

(Zaporozh'ye—Apartment houses)
(Precast concrete construction)

VALITOV, R.A.; VIKHROV, G.P.; NAYDEROV, V.Z.

Using electronic pulse meters in measuring equipment. Izm.tekh. no.5:41-44 My '60. (MIRA 14:5)
(Pulse techniques (Electronics))

50 c

L 41182-65 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) Pf-4
ACCESSION NR: AP5004677 S/0115/64/000/009/0058/0059

70
18
B

AUTHOR: none

TITLE: Fourth scientific and technical conference on "Cybernetics for the improvement of measurement and inspection methods"

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 58-59

TOPIC TAGS: cybernetics, electric measurement, electric quantity instrument, digital computer, electronic equipment, electric engineering conference

ABSTRACT: The conference was held 1-4 July at the All-Union Scientific Research Institute of Metrology by the Section of Electrical Measurements of the Council on the Problem of "Scientific Instrument Making" of the State Committee on Coordination of Scientific Research Work in the USSR together with the All-Union Scientific Research Institute of Electrical Measurement Instruments and the Leningrad Regional Administration of the Scientific and Technical Division of the Instrument Making Industry. More than 400 delegates from 29 cities of the country participated. Fifty-seven reports were heard and discussed. Reports were given by: P. V. NOVITSKIY (Leningrad)--"Definition of the Concept of Informational Error in Measurement and its Importance in Practical Use" and "On the Problem of the Average Informational Criterion of Accuracy Throughout the Entire Scale of an Instrument"; Ya. A.

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ACCESSION NR: AP5004677 17

KUPERSHMIDT (Moscow)--"On Determination of the Criteria of Accuracy for Measurement Devices"; S. M. MANDEL'SHTAM (Leningrad)--report on a new criterion of accuracy of measurement instruments; P. F. PARSHIN (Leningrad)--report on optimization when using Fourier transforms on electronic digital computers; S. P. DMITRIYEV, G. Ya. DOLGINTSEVA and A. A. IGNATOV (Leningrad)--proposal of a new method for solving problems of optimum filtering for non-stationary random signals and interference; I. B. CHELPANOV--"Calculation of the Dynamic Characteristics of an Optimum Complex Two-Channel System which Uses Signals from a Position Meter and from a Speed Meter"; R. A. POLUEKTOV (Leningrad)--"Optimum Periodic Correction in the Measurement of Continuous Signals"; S. P. ADAMOVICH (Moscow)--"Analysis and Construction of Devices for Correction of Non-linearity and Scaling for Unitary Codes; G. V. GORELOVA (Taganrog)--"A Method for Statistical Optimization in Graduating the Scales of Electrical Measuring Instruments"; M. A. ZEMEL'MAN (Moscow)--"Analog-Digital Voltage Converter with Automatic Error Correction"; B. N. MALINOVSKIY, V. S. KALENCHUK and I. A. YANOVICH (Kiev)--"Automatic Monitoring of the Parameters of the Electrical Signals of Complex Radio and Electronic Equipment"; V. P. PEROV (Moscow)--"Operational Cybernetics as an Independent Scientific Specialization"; Ye. F. GIL'BO (Leningrad)--"On the Problem of Effective Non-linear Scales"; A. I. MARKELOV (Moscow)--"Devices for Preliminary Processing of the Results of Measurements Presented in the Form of

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L 41182-65

ACCESSION NR: AP5006677

Graphic Recordings For Subsequent Introduction of the Information into Universal Digital Computers"; O. M. MOGILEVER and S. S. SOKOLOV (Leningrad)--"On a Method for Reducing Excess Information"; T. V. NIKOLAYEVA (Leningrad)--"A Device for Temporal Discretization of Continuous Signals"; A. A. LYOVIN and M. L. BULIS (Moscow)--"Optimization of the Transmission of Telemetric Information as a Means for Raising the Efficiency and Eliminating Interference"; D. E. GUKOVSKIY (Moscow)--"On a Statistic Approach to the Detection of Events in Automatic Inspection"; M. I. LANIN (Leningrad)--"Method for Calculating the Holding Time of Communications in a Centralized Inspection System or Constant Servicing Time"; O. N. BRONSHTSYN, A. L. RAYKIN and V. V. RYKOV (Moscow)--"On a Single-Line Mass Service System with Losses"; V. M. SHLYANDIN (Penza)--report on circuit designs for direct compensation electrical digital measuring instruments; A. N. KOMOV (Novocherkassk)--report on a new method for compensation of digital bridges; M. N. GLAZOV (Leningrad)--report on the problem of voltage-to-angular rotation conversion; V. S. GUTNIKOV (Leningrad)--"Methods for Construction of Frequency Capacitance Pickups with a Linear Scale"; R. Ya. SYROPYATOVA and R. R. KHARCHENKO (Moscow)--report on the determination of the amplitude-frequency and phase characteristics of PFM and PWM modulators; Ye. I. TSNYAKOV (Novocherkassk)--"The Phototransistor as a Switch for Electrical Measurement Purposes"; N. V. MALYGINA (Leningrad)--a report on ways for making universal equipment for measurement of current, voltage and power; P. P. ORNATSKIY and V. I. ZOZULYA (Kiev)--reports on the construction of static voltmeters, wattmeters and

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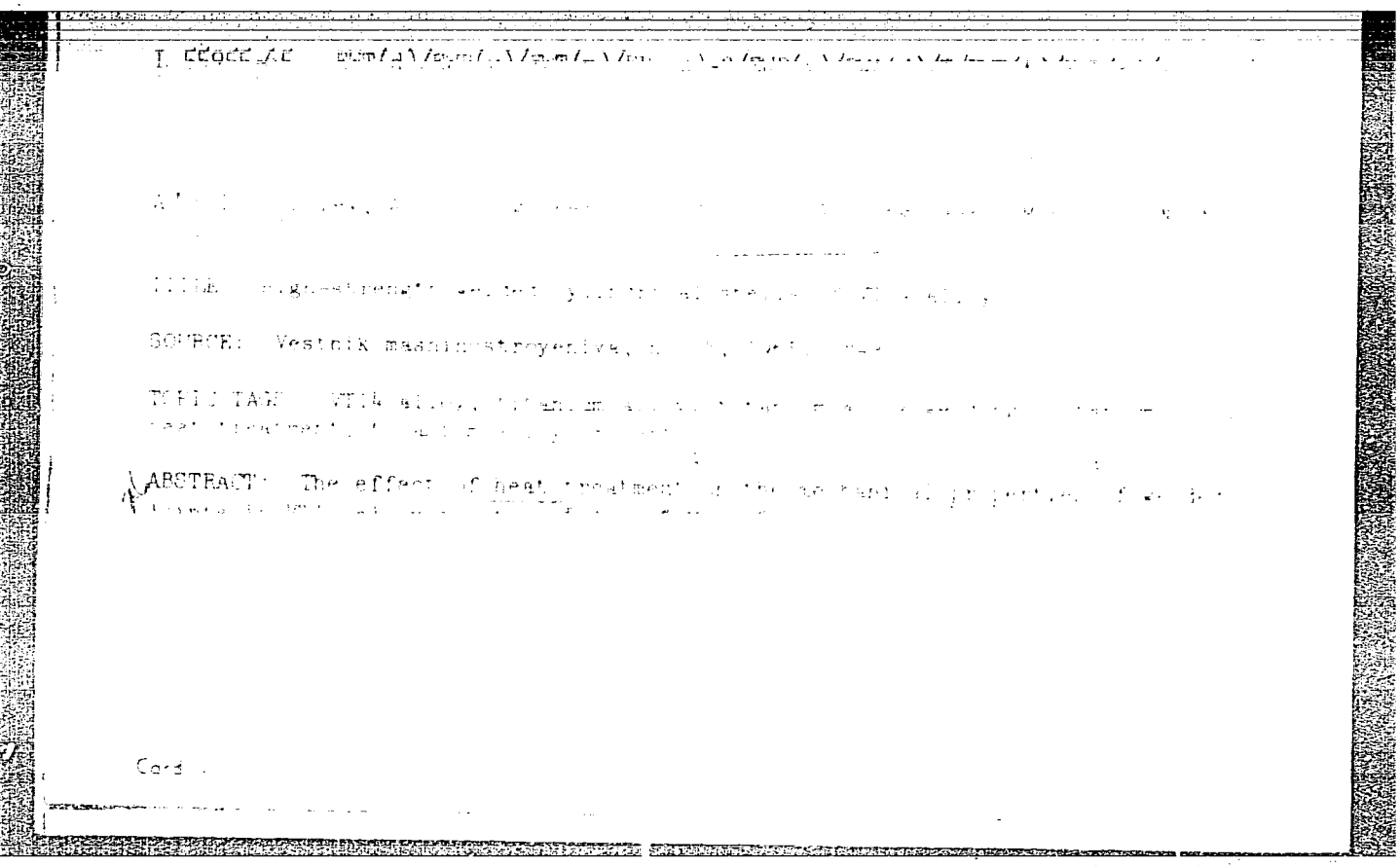
phase meters; A. V. TRIKHANOV, I. G. SMYSHLYAYEV, N. I. SABLIN, V. M. RAZIN and V. A. GORBUNOV (Tomsk)--report on a device for automatic processing of the measurements of vibration amplitude of pneumatic hammers; L. K. RUKINA and V. G. KNORRING (Leningrad) --report on the development of a digital compensator for measuring pressure, force, etc.; N. B. DADUKINA (Leningrad)--report on a method for constructing frequency pickups for gas analysis; Ye. M. KARPOV, V. A. BRAZHNIKOV and B. Ya. LIKHTTSINDER (Kuybyshev)--reports on analysis and recording of boring speeds; Yu. V. PSHENICHNIKOV (Kuybyshev)--"A High Speed Voltage-to-Digital Code Converter for ac Pickups"; G. P. VIKHROV and V. K. ISAYEV (Vilna)--"A Highly Accurate Digital Peak-to-Peak Voltmeter"; and S. M. PERSIN (Leningrad)--"A Low Level Analog-Digital Voltage Converter."

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE, EC

NO REF SOV: 000 OTHER: 000 JPRS

Card 4/4



L 55955-65
ACCESSION NR: AP5014236

weld. Orig. art. has: 3 figures and 2 tables. [AZ]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

Card

VIKHROV, I.N.

Improving the equipment of the blast furnace plant in the Kuznetsk Metallurgical Combine. Metallurg 7 no.6:11-13 Je '62. (MIRA 15:7)

1. Pomoshchnik nachal'nika domennogo tsekha po oborudovaniyu Kuznetskogo metallurgicheskogo kombinata.
(Novokusnetsk—Blast furnaces—Equipment and supplies)

MODESTOVA, Tat'yana Alekseyevna; VIKHROV, Pavel Georgiyevich; SHELIKHOV, Nikolay Nikolayevich; BELEN'KIY, I.S., retsenzent; PLENYANNIKOV, M.N., red.; VINOGRADOVA, G.A., tekhn. red.

[Commercial study of materials used in clothing manufacture] Materialovedenie shveinogo proizvodstva. Izd.4., ispr. i dop. Moskva, Gizlegprom, 1963. 278 p. (MIRA 16:8)
(Textile fabrics)
(Clothing industry--Equipment and supplies)

KONOBEYEVSKIY, S.T.; PRAVDYUK, N.F.; POKROVSKIY, Yu.I.; VIKHROV, V.I.

[Effect of neutron irradiation on internal friction in zinc monocrystals and polycrystals] Vliianie neitronnogo oblucheniia na vnutrennee trenie mono- i polikristallov tsinka. Moskva, In-t atomnoi energii AN SSSR, 1960. 15 p. (MIRA 17:1)

VIKHROV, V. I.

90

PHASE I BOOK EXPLOITATION SOV/6176

Konobeyevskiy, S. T., Corresponding Member, Academy of Sciences USSR, Resp. Ed.

Deystviye vadernykh izlucheniy na materialy (The Effect of Nuclear Radiation on Materials). Moscow, Izd-vo AN SSSR, 1962. 383 p. Errata slip inserted. 4000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk; Otdeleniye fiziko-matematicheskikh nauk.

Resp. Ed.: S. T. Konobeyevskiy; Deputy Resp. Ed.: S. A. Adasinskiy; Editorial Board: P. L. Gruzin, G. V. Kurdyumov, B. M. Levitskiy, V. S. Lyashenko (Deceased), Yu. A. Martynyuk, Yu. I. Pokrovskiy, and N. F. Pravdyuk; Ed. of Publishing House: M. G. Makarenko; Tech. Eds: T. V. Polyakova and I. N. Dorokhina.

Card 1/14

90

The Effect of Nuclear Radiation (Cont.) SOV/6176

PURPOSE: This book is intended for personnel concerned with nuclear materials.

COVERAGE: This is a collection of papers presented at the Moscow Conference on the Effect of Nuclear Radiation on Materials, held December 6-10, 1960. The material reflects certain trends in the work being conducted in the Soviet scientific research orginization. Some of the papers are devoted to the experimental study of the effect of neutron irradiation on reactor materials (steel, ferrous alloys, molybdenum, avial, graphite, and nichromes). Others deal with the theory of neutron irradiation effects (physico-chemical transformations, relaxation of internal stresses, internal friction) and changes in the structure and properties of various crystals. Special attention is given to the effect of intense γ-radiation on the electrical, magnetic, and optical properties of metals, dielectrics, and semiconductors.

Card 2/14

L 8158-66 EPF(n)-2/EWT(d)/EWT(m)/EWP(z)/EWP(b)/T/EWA(d)/EWP(w)/EWA(c) IJP(c)
ACC NR: AT5023801 EM/GG/MJW/JD/HW/GS SOURCE CODE: UR/0000/62/000/000/0219/0234

AUTHOR: Konobeyevskiy, S. T. (Corresponding member AN SSSR); Pravdyuk, N. F.; Pokrovskiy, Yu. I.; Vikhrov, V. I.

ORG: none

TITLE: The effect of neutron irradiation on the internal friction of metals

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheniy na materialy. Moscow, 1960. Deystviye yadernykh izlucheniy na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 219-234

TOPIC TAGS: copper, aluminum, magnesium, chromium steel, nickel containing steel, metal internal friction, metal fatigue, neutron irradiation, irradiation effect

ABSTRACT: The internal friction (1/Q) and the normal elasticity modulus have been investigated in solution-heat-treated copper, aluminum, and magnesium prior to and after irradiation at 80C with an integrated flux of 2.0×10^{16}—5.0×10^{20} thermal n/cm^2 (the number of fast neutrons with an energy of more than 1 Mev was 35%). The 1/Q was measured at a stress of 2—20,000 g/mm^2. The plotted internal friction-strain amplitude curves showed the existence of a critical strain (σ_{cr}) under which the 1/Q begins to be affected by the applied stress. The 1/Q and σ_{cr} were found to be very sensitive to irradiation (see Fig. 1.). For example, the σ_{cr} for irradiated copper increased 280 times and the minimum value of 1/Q decreased by two times compared with the initial value before irradiation. The changes in the value of 1/Q and

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ACC NR: AT5023801

σ_{cr} with irradiation doses equal to or less than 10^{17} n/cm^2 are caused by the interaction of dislocations and point defects which resulted from elastic scattering of neutrons. In the case of plastic deformation of up to 27%, the point defects resulted from interaction between dislocations, and the increase in the value of 1/Q was considerably smaller. In distilled magnesium subjected to fatigue with a cyclic stress of various amplitude before irradiation with an integrated flux of 10^{19} n/cm^2 (thermal neutrons and about 10% fast neutrons with an energy above 1 Mev), the value of σ_{cr} was found to increase from the initial 5 g/mm^2 to 100 g/mm^2 after irradiation. In fatigue testing under a cyclic stress of 1600—4500 g/mm^2, distilled magnesium irradiated with an integrated flux of 10^{19} n/mm^2 (thermal) had an endurance limit 10% higher than unirradiated magnesium. The effect of irradiation on the natural vibration frequency of specimens (the square of which determines the normal elasticity modulus) was investigated on irradiated copper and unirradiated 1Kh18N9T [AISI 321] stainless steel. The observed irradiation-induced behavior of the normal elasticity modulus can be explained by a manifestation of both the elastic and "nonelastic" properties of the metal, depending on the magnitude of the stress applied in dynamic measurement of the modulus. The "nonelastic" properties of the metal can be caused by migration of dislocations, while pure elastic properties manifest themselves only in the region of stresses $\sigma \leq \sigma_{cr}$.

Card 2/3

L 3158-66

ACC NR: AT5023801

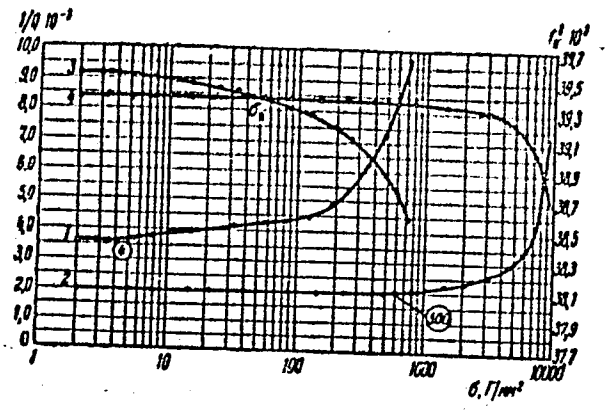

Fig. 1. Dependence of the internal friction and the square of natural vibration frequency of copper before and after irradiation on stress amplitude.

1 - Internal friction before irradiation; 2 - after irradiation; 3 - square of the natural frequency before irradiation; 4 - after irradiation.

Hence, the irradiation-induced changes in the normal elasticity modulus can be studied only at the above stresses. Orig. art. has: 16 figures. [MS]

SUB CODE: MM,SS/ SUBM DATE: 18Aug62/ ORIG REF: 002/ OTH REF: 001/

jw

Card 3/3

L 9238-66 EWT(d)/EWT(l)/EWT(m)/EWP(w)/EPF(n)-2/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/
ACC NR: AT5023802 EWA(h)/EWA(c)/ETC(m) SOURCE CODE: UR/0000/62/000/000/0235/0241
JD/WW/EM/GG/GS

AUTHOR: Pravdyuk, N. F.; Pokrovskiy, Yu. I.; Vikhrov, V. I.

ORG: none

TITLE: Effect of neutron irradiation on the internal friction of zinc monocrystals and polycrystals

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheniy na materialy. Moscow, 1960. Deystviye yadernykh izlucheniy na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 235-241

TOPIC TAGS: irradiation, neutron irradiation, zinc single crystal, zinc polycrystal, internal friction

ABSTRACT: Zinc single crystals and polycrystals with various base plane angles and with orientation angles of 15, 46, 66, 76, 86, and 88° were irradiated with integrated fluxes of 3×10^{18} or 1.5×10^{19} n/cm^2, and the effect of irradiation on the internal friction was investigated. Results of investigations showing changes of internal friction, which are produced by the maximum strain amplitude (σ_{cr}), at which the internal friction begins to depend upon it, in zinc single crystals and polycrystals with or without applying neutron irradiation are shown in Figs. 1—6.

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L 9238-66
ACC NR: AT5023802

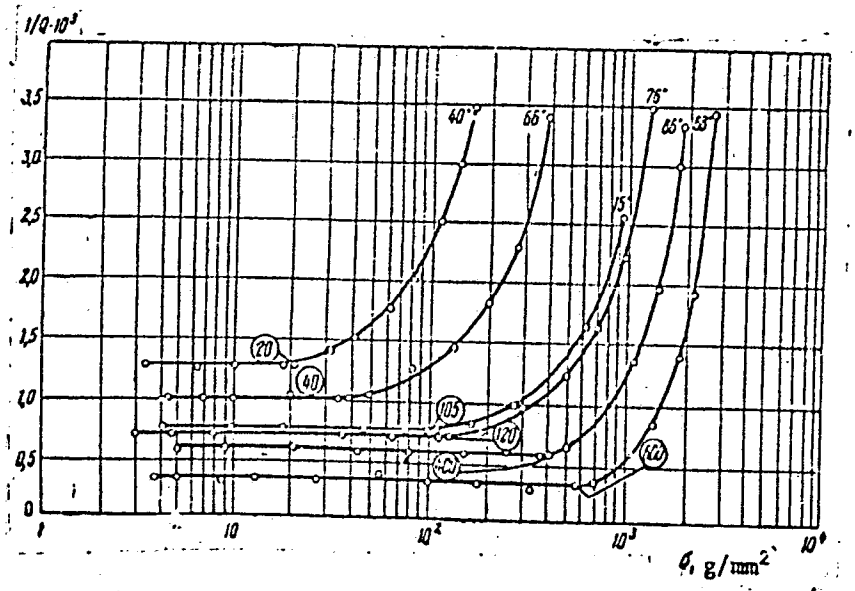

Fig. 1. Internal friction change induced by strain amplitude of unirradiated zinc single crystals with orientation angles of 15, 40, 66, 76, 86, and 88° at base plane 0001 (the values of σ_{cr} are shown on the curves)

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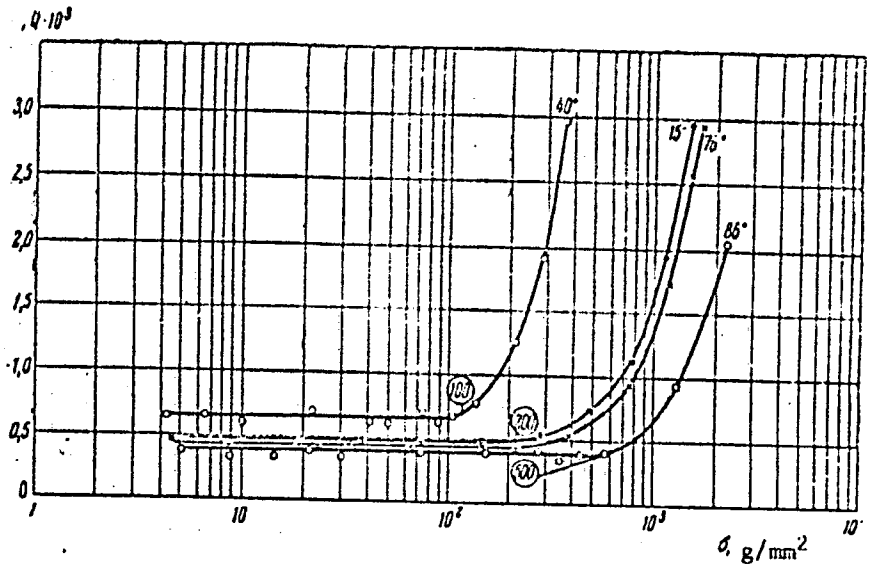

Fig. 2. Internal friction change induced by strain amplitude of zinc single crystals with orientation angles of 15, 40, 76, and 86° at base plane 000, which were irradiated with a flux of 3 x 10^{18} n/cm^2 (the values of σ_{cr} are shown on the curves)

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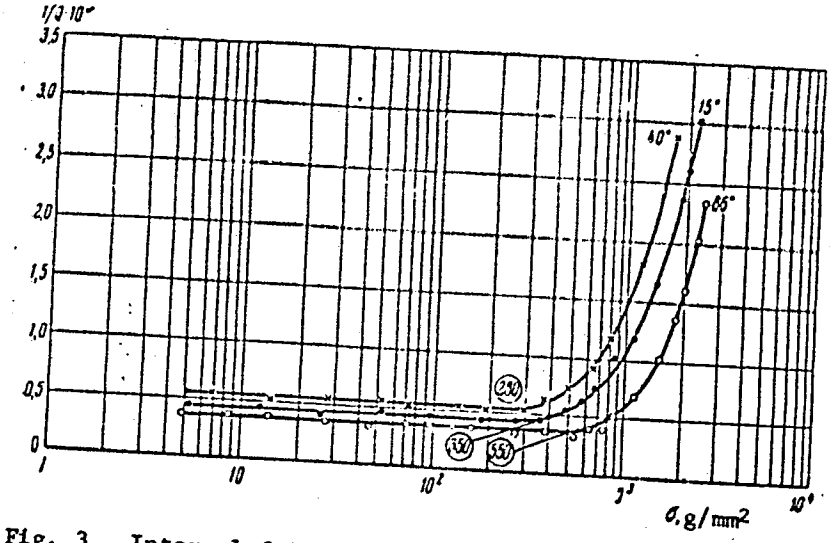

Fig. 3. Internal friction change induced by strain amplitude of zinc single crystals with orientation angles of 15, 40, and 86° at base plane 0001, which were repeatedly irradiated with a flux up to 1.5×10^{19} n/cm^2 (the values of σ_{cr} are shown on the curves)

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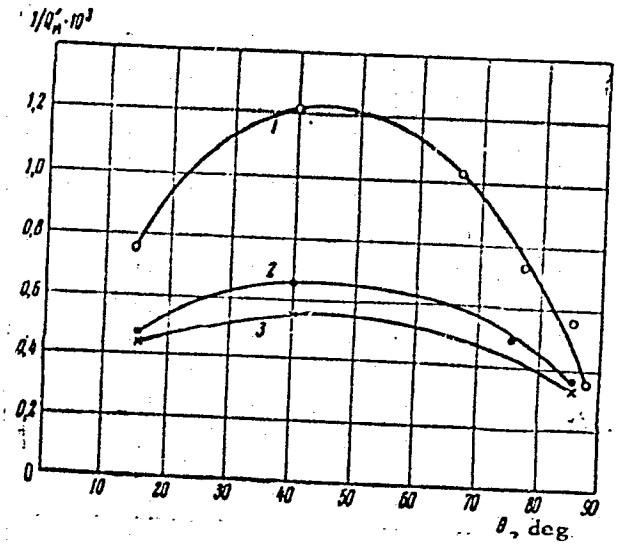

Fig. 4. Minimum internal friction change of zinc single crystals, which depends upon orientation angle at base plane 0001

1 - Before irradiation; 2 - after irradiation with a flux of 3×10^{18} n/cm^2; 3 - after repeated irradiation with fluxes up to 1.5×10^{19} n/cm^2.

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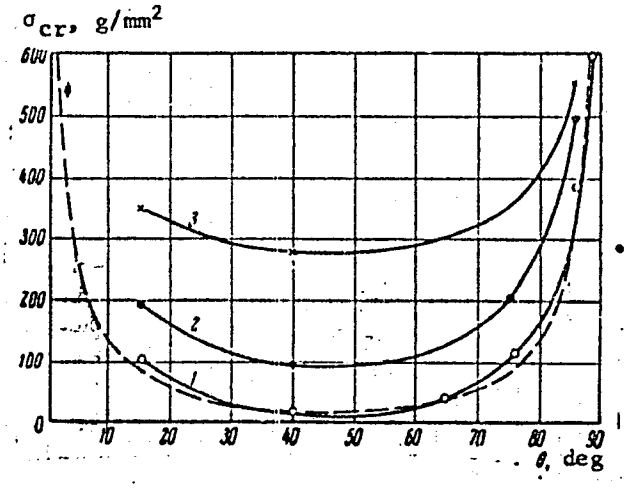

Fig. 5. Change in σ_{cr} before and after irradiation of zinc single crystals, which depends upon orientation angle at base plane 0001

1 - Before irradiation (experimental curve); 2 - after irradiation with a flux of 3×10^{18} n/cm^2; 3 - after repeated irradiation with fluxes up to 1.5×10^{19} n/cm^2; 4 - before irradiation (theoretical curve).

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ACC NR: AT5023802

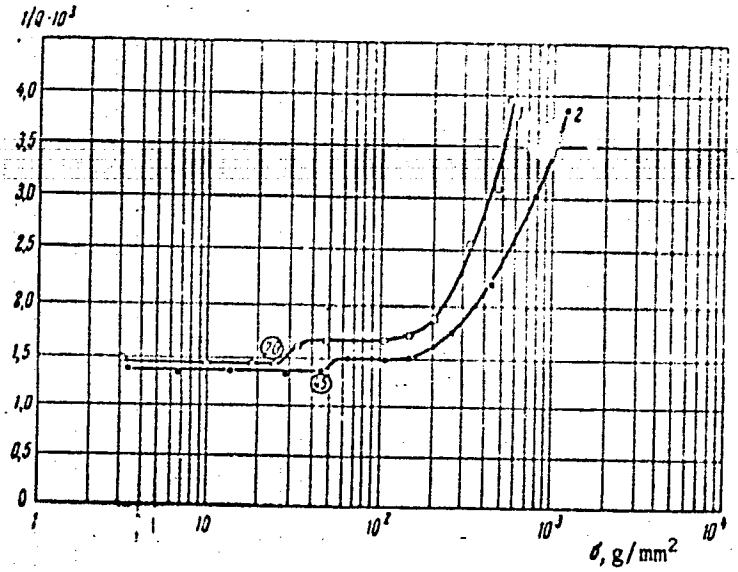

Fig. 6. Internal friction change induced by strain amplitude before and after irradiation of zinc polycrystal

1 - Before irradiation (σ_{cr} = 26 g/mm^2); 2 - after irradiation with flux of 3 x 10^{18} n/cm^2 (σ_{cr} = 45 g/mm^2).

Orig. art. has: 7 figures and 3 formulas.

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ACCESSION NR: AT5013238

AUTHOR: Pravdyuk, N. F.; Ivanov, V. P.; Kuznetsov, V. N.; Vikhrov, V. I.; Perevozchikov, V. S.

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 2, 1964. Dozimetriya neytronov i gamma-luchey (Dosimetry of neutrons and gamma rays), 51-64

TOPIC TAGS: fast neutron flux, [illegible], neutron registration, neutron flux measurement, reactor neutron flux, radiation dosimetry

ABSTRACT: The authors studied the problem of absolute measurements of integral fluxes of fast neutrons using the [illegible] reactions

$$Ni^{58}(n,p)Co^{58},\ Cl^{37}(n,a)P^{34},\ Al^{27}(n,a)Na^{24}$$

in the channels of the RFT reactor. The absolute isotope activity was measured by means of a 4π flow-through type [illegible] liquid scintillation counter, the β-f[illegible] method [illegible] and [illegible]

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L 53943-65
ACCESSION NR: AT5013[illegible]

counters with layers [illegible] first [illegible]

shape of the spectrum [illegible]

and corrected by [illegible]
Neutron [illegible]

to the Harwell Symposium in December 1962, No SM 36/42; J. Moteff, Nucleonics 20, 1962, 12, 56). "In conclusion, the authors thank Yu. G. Nikolayev and his co-workers for calculating the neutron spectra and for practical help in carrying out the experiments." Orig. art. has: 9 formulas, 5 figures, and 3 tables.

Card 2/3

ASSOCIATION: Ordena Lenina Institut atomnoy energii im. I. V. Kurchatova (Ordena

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

Card 3/3

ABRAMOV, F.A., prof., doktor tekhn.nauk; TORGOVNIKOV, B.M., nauchnyy sotrudnik; VIKHROV, V.I., nauchnyy sotrudnik; KAGANER, V.M., nauchnyy sotrudnik; KURMAN, A.V., nauchnyy sotrudnik

Calculating the forced distribution of air in a mine ventilation system using an electronic computer. Ugol' 39 no.12:54-59 D '64. (MIRA 18:2)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema (for Abramov). 2. Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog (for Torgovnikov, Vikhrov, Kaganer, Kurman).